

REMARKS

Entry of the foregoing and reconsideration of the application identified in caption, as amended, pursuant to and consistent with 37 C.F.R. §1.111 and in light of the remarks which follow, are respectfully requested.

By the above amendments, the instant specification at page 40 has been amended for clarification purposes by replacing the term "polarizer" with "polarizing plate." Support for this amendment can be found in the specification at least at page 42, line 22. The specification has also been amended to correct typographical errors at pages 42, 43 and 47. Claim 3 has been amended for readability purposes by replacing "A" with "The", and to correct a typographical error. Claim 9 has been amended for readability purposes by correcting grammatical errors therein.

In the Official Action, claims 1-9 stand rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 6,937,307 (*Ito et al*) in view of U.S. Patent No. 6,404,469 (*Kitagawa et al*). Withdrawal of this rejection is respectfully requested for at least the following reasons.

Independent claim 1 is directed to a polarizing plate comprising a polymer film, a polarizer, a polymer substrate, and an optically anisotropic layer comprising a liquid crystal compound, laminated in this order, wherein the polarizer has a thickness of 10 to 25 μm .

Independent claim 9 is directed to a polarizing plate comprising a protective film, a polarizer, and a poly film substrate, laminated in this order, wherein the polarizer has a thickness of 10 to 25 μm , and the polymer film has a Re retardation value defined by the following formula (I) in a range of 20 to 70 nm, a Rth retardation value defined by the following formula (II) in a range of 70 to 400 nm:

$$\text{Re} = (nx - ny) \times d \quad (\text{I})$$

$$R_{th} = [(n_x + n_y)/2 - n_z] \times d \quad (II)$$

wherein n_x and n_y are refractive indexes of a slow axis and a fast axis in plane of the polymer film substrate, and n_z is a refractive index of a thickness direction of the polymer film substrate.

Ito et al does not disclose or suggest each feature recited in claims 1 and 9. For example, *Ito et al* does not disclose or suggest a polarizing plate comprising a polarizer, wherein the polarizer has a thickness of 10 to 25 μm , as recited in claims 1 and 9. This deficiency is acknowledged by the Patent Office at page 2 of the Official Action.

Kitagawa et al fails to cure the above-described deficiencies of *Ito et al*. In this regard, the Patent Office has relied on *Kitagawa et al* for disclosing "a liquid crystal display device comprising a polarizer having a thickness of 5-80 μm " (Official Action at page 2). However, even if *Ito et al* and *Kitagawa et al* would have been combined in the manner suggested by the Patent Office, Applicant submits that the claimed polarizing plate can provide surprising and unexpected results, for example, in the form of minimizing or eliminating the light leakage of the liquid crystal display, while maintaining sufficient polarizing performance.

As discussed in the instant specification at page 7, employing the claimed polarizing plate comprising a polarizer having a thickness of 10 to 25 μm can result in the minimization or elimination of light leakage of the liquid crystal display, while maintaining sufficient polarizing performance. For example, Applicant has discovered that a polarizer thickness of at least 10 μm is necessary to obtain sufficient polarizing performance (specification at page 7, lines 9-11). On the other hand, from the standpoint of minimizing or eliminating light leakage of the liquid crystal display, Applicant has discovered that the polarizer thickness is preferably 25 μm or less (specification at page 7, lines 16-21). Thus, employing the claimed

polarizer thickness of 10 to 25 μm can result in minimizing or eliminating light leakage of the liquid crystal display while maintaining sufficient polarizing performance. By comparison, the applied art provides no recognition or guidance concerning the effect of the polarizer thickness on the amount of light leakage of the liquid crystal display, let alone any mention or suggestion of minimizing such light leakage while maintaining sufficient polarizing performance.¹

Furthermore, the experimental data set forth at pages 32-44 of the instant specification exemplifies the surprising and unexpected nature of the claimed polarizing plate. In this regard, in Examples 3 and 4 prepared in accordance with the claimed invention, no light leakage was found in the display screen of the liquid crystal displays (specification at pages 42 and 44). By comparison, in Comparative Example 1, framewise leakage was observed in the display screen. In this regard, Applicant submits that in Comparative Example 1, the polarizer employed at the backside of the liquid crystal display had a thickness of about 28 μm , which is outside the claimed range of 10 to 25 μm . In view of the experimental results set forth in the instant specification, it is apparent that employing a polarizer having a thickness of about 28 μm in a polarizing plate in accordance with the claimed invention can provide surprising and unexpected results, in comparison with the use of a polarizer having a thickness outside of the claimed range.

For at least the above reasons, it is apparent that the claims are not obvious over the combination of *Ito et al* and *Kitagawa et al*. Accordingly, withdrawal of the above §103(a) rejection is respectfully requested.

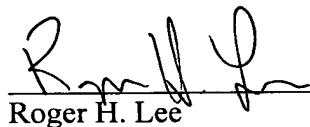
¹ In stark contrast with the claimed invention, *Kitagawa et al* discloses that "[t]he polarizing film typically has a thickness of from 5 to 80 μm , but the thickness is not limited to this range." (col. 2, lines 54-56) (emphasis added). Clearly, *Kitagawa et al* is not concerned with the effect of the polarizer thickness on the amount of light leakage of the liquid crystal display, let alone minimizing such light leakage while maintaining sufficient polarizing performance.

From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order, and such action is earnestly solicited. If there are any questions concerning this paper or the application in general, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

BUCHANAN INGERSOLL PC (INCLUDING ATTORNEYS
FROM BURNS, DOANE, SWECKER & MATHIS)

Date: June 22, 2006

By: 
Roger H. Lee
Registration No. 46317

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620